

Work Order ID 149324

July 22, 2016 2:39:17 PM

149324*AMOD*

Page 1

Item ID: D2803-2 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bracket
Start Date: 9/14/2016 Start Qty: 12.00 ***12*** Cust Item ID:
Required Date: 9/27/2016 Req'd Qty: 12.00 ***12*** Customer:
Reference:

Approvals: Process Plan: *SH* Date: *7/25/16* Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2803	C								
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.82							
FLOW CNC Waterjet	1-Cut as per File d2803-2_blank Dwg Rev: <i>C</i> Prog Rev: <i>C</i> 2-Deburr if necessary								
110	HAAS CNC VERTICAL MACHINING #1	0.07							
110									
HAAS 1	Memo	1.64							
HAAS CNC vertical machine #1	Machine as per folio FA102								
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120									
QC	Memo	0.02							
Quality Control									

(12) *16-08-14**12* *1* *DAS 20 9-89 16-08-15**12* *1* *DAS 20 9-89 16-08-16*

DQA:

Date: 09/22/2016



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed

Date: SEP 02 2016

Work Order update only

Work Order: 149 324		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. D2803-2		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. 16-6000		Scrap ☒		Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date: 16-08-11	Step #: 110	QTY Effective: ①					MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				DAS 16 9-89 16/08/11	
width of pocket ".875 ^{+0.000} _{-0.001} " is out of tolerance ".881" Due to a crack in tool holder. Tool holder went to scrap.				Scrap & Replace B135377				Completed By DAS 20 9-89 16-08-11	
RC. Tooling								Lead hand / Supervisor Approval Verification	
								A. 16/08/11	
								QC / QA Coordinator Approval	
								DAS 16 9-89 16/08/11	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Set-up ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☒				
Equip/Tooling ☒	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

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Accept

Setup Start *NS1*

Stop *NS2*

12

Cust Item ID:

Start Date: 9/14/2016 **Start Qty:** 12.00

Required Date: 9/27/2016 **Req'd Qty:** 12.00

12

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Operation Description

Set Up/ Run Hours

Tool ID	Tool #	Plan Code
---------	--------	--------------

Accept Qty	Reject Qty	Reject Number	Insp. Stamp
---------------	---------------	------------------	----------------

130

QC8- Inspect parts - second check

0.00

130

0.04

QC

Memo

Quality Control

140

Chemical Conversion Coat per QSI005 4.1

0.00

140

0.14

HandFinish

Memo

Hand Finishing

145

QC7-Inspect Chemical Conversion Coat

0.00

145

0.02

QC

Memo

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 149324

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149324

Page 3

Item ID: D2803-2 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Bracket
Start Date: 9/14/2016 Start Qty: 12.00 *12* Cust Item ID:
Required Date: 9/27/2016 Req'd Qty: 12.00 *12* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Identify as per dwg & Stock Location: <u>G-A</u>	0.00							
150									
Packaging	Memo	0.02				12x			16/08/29
Packaging									
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.20							
Quality Control									

DAS 21 9-89

DAS 36 9-89

DAS 21 9-89

AUG 3 1 2016

AUG 2 9 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
3241 15 2-1				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

July 22, 2016 2:39:17 PM

Work Order ID: 149324

149324

Parent Item: D2803-2

D2803-2

Parent Item Name: Bracket

Start Date: 9/14/2016

Required Date: 9/27/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP A 00.11.06New IssueEC
IPP Rev:B Blanks now cut on Waterjet 06-06-14 JLM
IPP Rev:C Removed Tumbling 08-09-10 JLM Verified By:EC IPP
Rev:D add qc3 DD 10.02.19 Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B0.500X10.00 0		Purchased	No			100	f	25.7000	1.9167	24.21095			

M6061T6B0 500X10 000

6061-T6 Bar .500 x 10.00

on 11/18/07

Location	Loc Qty	Loc Code
MAT	1.7	
M131700	1.7	
MAT001	24	
M134984	24	
135377		

24

DQA: _____ Date: _____

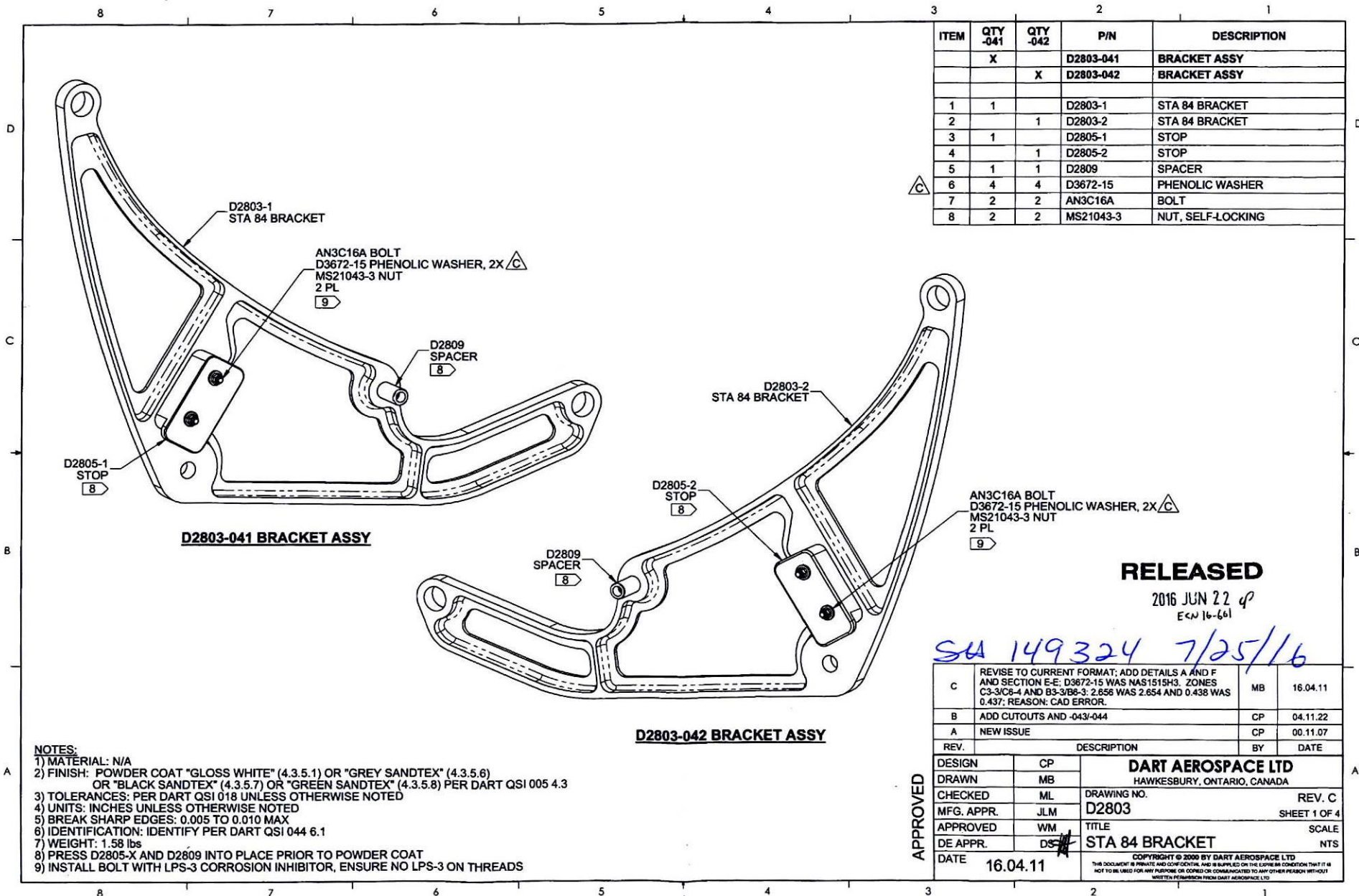


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



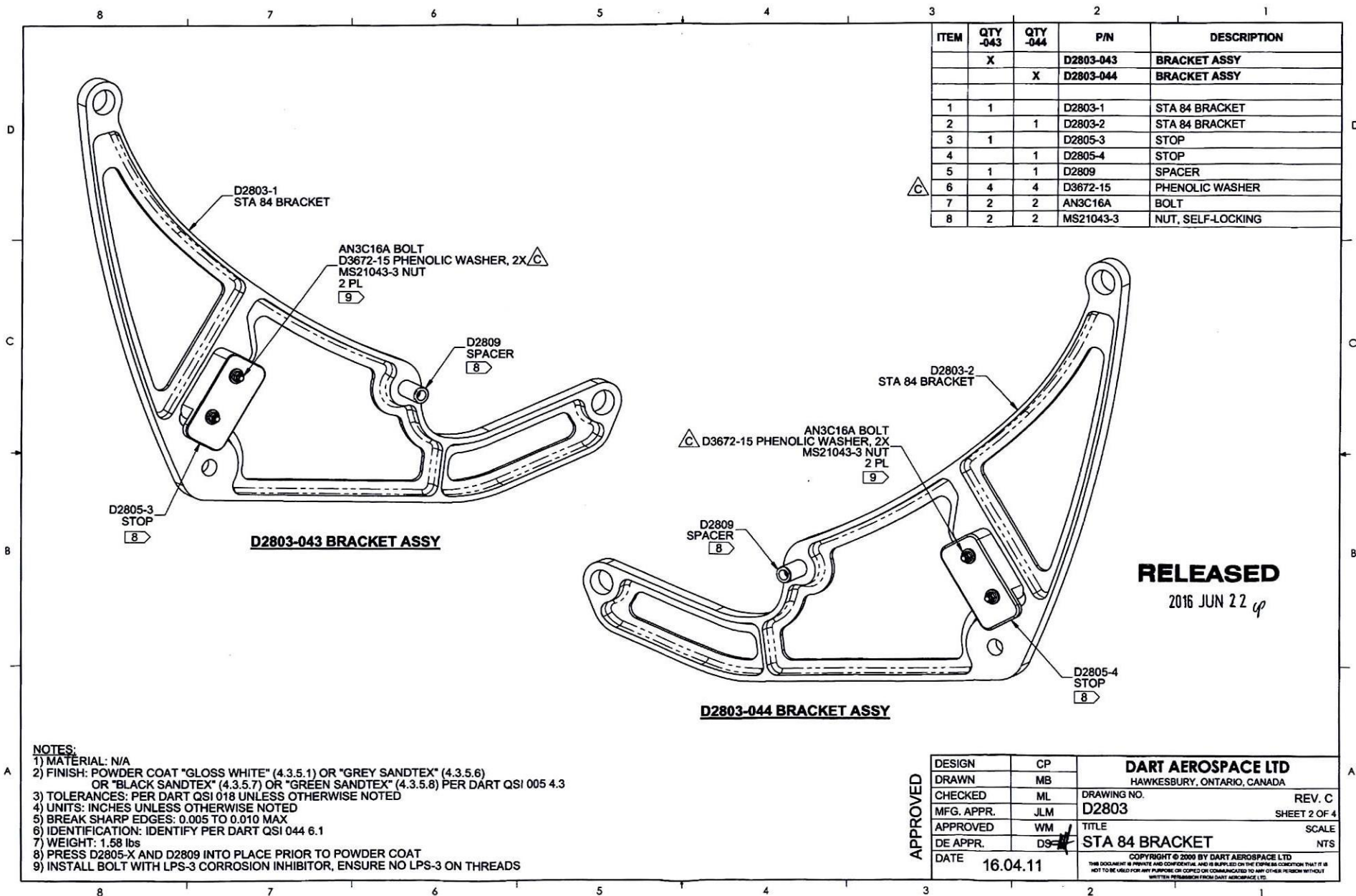
ITEM	QTY -041	QTY -042	P/N	DESCRIPTION
	X		D2803-041	BRACKET ASSY
		X	D2803-042	BRACKET ASSY
1	1		D2803-1	STA 84 BRACKET
2		1	D2803-2	STA 84 BRACKET
3	1		D2805-1	STOP
4		1	D2805-2	STOP
5	1	1	D2809	SPACER
6	4	4	D3672-15	PHENOLIC WASHER
7	2	2	AN3C16A	BOLT
8	2	2	MS21043-3	NUT, SELF-LOCKING

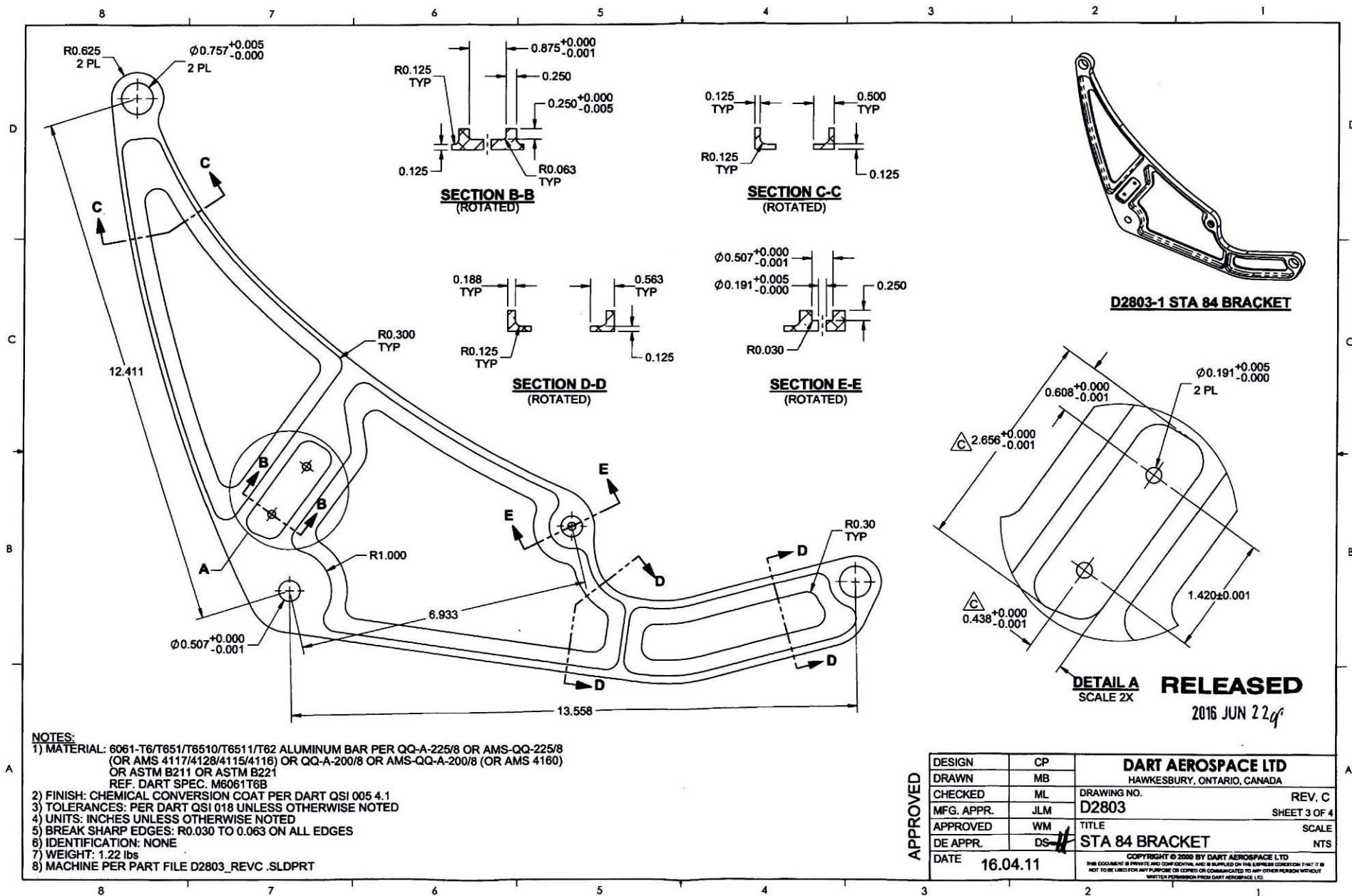
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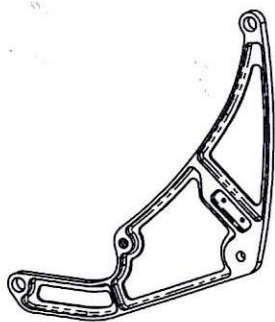
2016 JUN 22 qf
EEN 16-661

SA 149324 7/25/16

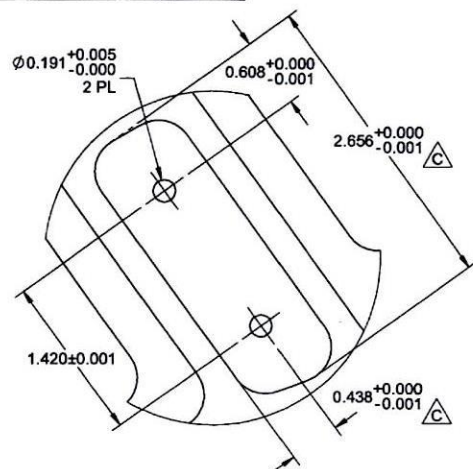
C	REVISE TO CURRENT FORMAT; ADD DETAILS A AND F AND SECTION E-E; D3672-15 WAS NAS1515H3. ZONES C3-3/C6-4 AND B3-3/B6-3: 2.656 WAS 2.654 AND 0.438 WAS 0.437; REASON: CAD ERROR.	MB	16.04.11
B	ADD CUTOUTS AND -043/-044	CP	04.11.22
A	NEW ISSUE	CP	00.11.07
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MB		
CHECKED	ML	DRAWING NO.	REV. C
MFG. APPR.	JLM	D2803	SHEET 1 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STA 84 BRACKET	NTS
DATE	16.04.11	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



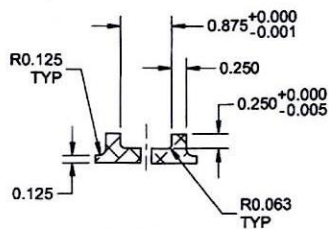




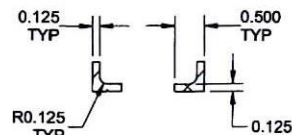
D2803-2 STA 84 BRACKET



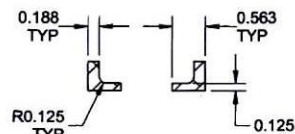
DETAIL F
SCALE 2X



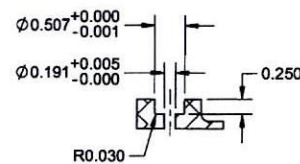
SECTION G-G
(ROTATED)



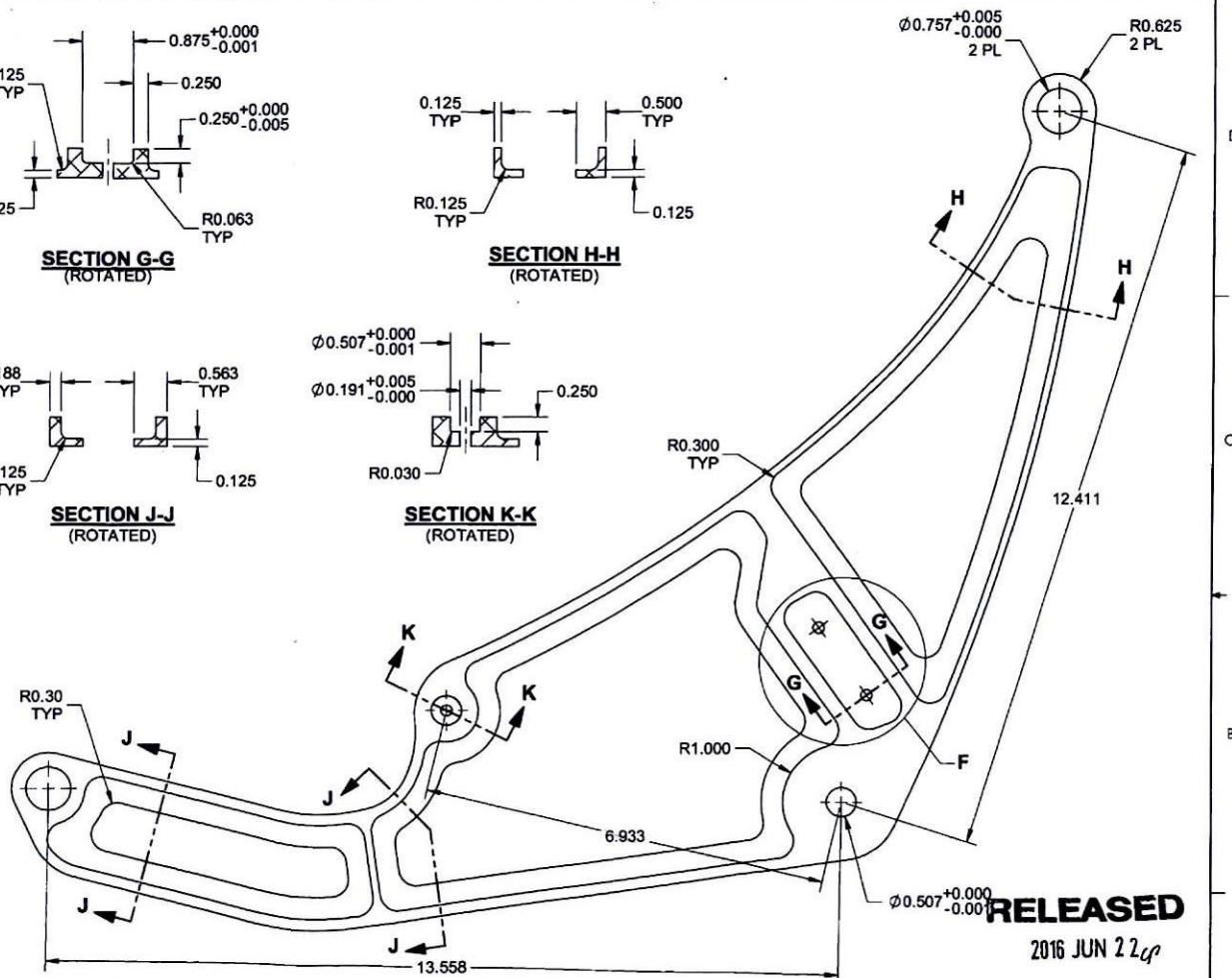
SECTION H-H
(ROTATED)



SECTION J-J
(ROTATED)



SECTION K-K
(ROTATED)



RELEASED
2016 JUN 22 *cp*

- NOTES**
- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-225/8 (OR AMS 4117/4128/4115/4116) OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160) REF. DART SPEC. M6061T6B
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: R0.030 TO 0.063 ON ALL EDGES
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 1.22 lbs
 - 8) MACHINE PER PART FILE D2803_REV.C.SLDPRT

APPROVED

DESIGN	CP
DRAWN	MB
CHECKED	ML
MFG. APPR.	JLM
APPROVED	WM
DE APPR.	DS
DATE	16.04.11

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.
D2803

REV. C
SHEET 4 OF 4

TITLE
STA 84 BRACKET

SCALE
NTS

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DART AEROSPACE LTD		Work Order:	149324
Description: Bracket		Part Number:	D2803-2
Inspection Dwg: D2803	Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.757	+0.005/-0.000	.759	✓			
1.420	+/-0.001	1.421	✓			
Ø0.191	+0.005/-0.000	.192	✓			
Ø0.507	+0.000/-0.001	.5065	✓			
Ø0.507 x 0.250	+0.000/-0.001	.5065 x .250	✓			
12.411	+/-0.010	12.411	✓			
6.933	+/-0.010	6.933	✓			
0.250	+/-0.010	.245	✓			
0.875	+0.000/-0.001	.875				
0.250	+0.000/-0.005	.250	✓			
0.125	+/-0.010	.124	✓			
0.125	+/-0.010	.118	✓			
0.500	+/-0.010	.498	✓			
0.125	+/-0.010	.125	✓			
0.188	+/-0.010	.186	✓			
0.562	+/-0.010	.560	✓			
0.125	+/-0.010	.118	✓			

Measured by:	DAS 20 9-89	Audited by:	DAS 49 9-89	Prototype Approval:	N/A
Date:	16-08-11	Date:	16/08/16	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.25	New Issue	KJ/JLM	
B	06.12.07	13.558 dimension removed	KJ/JLM	
C	08.01.16	Tolerance revised for 0.875 dimension	KJ/EC/DD	